

Common Assumptions for Land Costs (sections 8.2.3 and 8.2.4)

Specific comments:

- The following costs appear to be missing from the assumptions for land acquisition:
 - acquisition per se (cost of staff time or consultants to actually do the deals),
 - legal (document review, etc.), and
 - litigation costs for condemnation.

- Land Values (Tables 8.4 and 8.5) seem low to very low. For example: Table 8.5 gives \$1500 per acre as the value for agricultural land with native vegetation. In general, we have found \$2500 to be closer to the truth. In Contra Costa County, we have found the value for land with native vegetation to go for \$5000 and up.

- Timing of land acquisition and assurance for funding source:
 - The tables, e.g. Table 8.19, seem to show that land acquisition will be accomplished over 40 years, while page 8-10 says that all permits should be in place before construction, which would ordinarily mean land acquisition should be done first, too. Since the document assumes a fairly high (though not unrealistic) discount rate, the long term for acquisition greatly decreases the present value cost.
 - Agencies often require that land is acquired early. If not, they may require funds be placed in escrow or an endowment. How will this work?
 - If there is no bond to pay for the land, who pays? Who ensures there is money for future payments? The significant infrastructure (IF) is up front but the supporting restoration activities are as much as 40 years off? Will there be an escrow account or irrevocable letter of credit, as is normally required under CESA permits?

Water Facilities and Operation (section 8.3.2)

The estimate appears to include most of the items needed to develop a cost model. Major inputs and assumptions appear to be comprehensive for conceptual level. However, there is not sufficient information to support all of the technical information and a number of the assumptions would bias the estimate on the low side.

Specific comments:

- Lack of Information
 - Not enough technical information to validate any individual cost item. Should at least show a schematic of the facilities that are being estimated.
 - Not clear how any of the facility sizes (and resulting construction costs) were validated.

- Cost of money
 - It is not clear where the cost of borrowing money is factored in.
 - Use of Discount Rate and Long term inflation rate doesn't account for payments to bond holders and present value for comparison of alternatives.

- Cost-lowering assumptions: Many bulleted assumptions on page 8-10 lower the costs. Why make cost-lowering assumptions and rely upon contingency at conceptual level when these should be known? Examples of underestimated costs:
 - Some borrow material will likely require a royalty payment, similar to our experience.
 - Disposal of spoils: cannot assume it will be local because of intense opposition and it appears questionable whether eminent domain could be used for such a purpose, given current legal rulings.
 - Upgrades (or repairs) to existing roads for this type of construction are certainly going to be needed. These are expensive, but excluded; they should be included.
 - Acceleration of construction will cost a premium. This does not seem to be factored into the facility construction costs.

- Power
 - Does the construction cost include power transmission facilities (wires, poles and substations) and land acquisition? If not, where is that factored in?
 - What is the source of power for the project? Are new power supply generators needed just to support these facilities?

- Utility Conflicts: Utility conflicts can be quite costly. The number of conflicts seems pretty low. What is the source of these numbers? Does this include easement conflicts with other underground and aboveground utilities?

- Mitigation: What is assumption for mitigation for construction and operation of these facilities? Where is that factored in, as these can be considerable?

- Operating Costs
 - Need detail of flow and pumping rates to validate operating costs. Only providing Avg/Dry/Wet year annual pumping is not sufficient. Need at least monthly, and possibly daily, rates to develop appropriate facility sizes and to model the cost. Costs change significantly if constantly pumping near average verses major increases in pumping with the seasonal fluctuations and at peak power charge times (summer afternoons for example).
 - Not clear what is assumed for maintenance, staff, administration, etc.
 - Assuming most pump station power cost is for pumping continuously at \$0.15/kW-hr, the pump stations are assumed to operate at an average of 92 MW through the year - about 36% of the 230 MW pump station capacity. This shows the effect of oversizing: a lot of capital cost is expended for capacity not used.
 - Table 8.7 indicates \$35.4 M/year for operating, while Table 8.8 indicates \$69 M/year. Which is right? Similar discrepancy for East Canal option.